

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

INFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

To:

MCNEIGHT & LAWRENCE
Regent House
Heaton Lane
Stockport
Cheshire SK4 1BS
ROYAUME-UNI

Date of mailing (day/month/year) 09 April 2001 (09.04.01)		
Applicant's or agent's file reference M98/0101/PCT		IMPORTANT INFORMATION
International application No. PCT/GB00/02882	International filing date (day/month/year) 26 July 2000 (26.07.00)	
Priority date (day/month/year) 27 July 1999 (27.07.99)		
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al		

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

AP : GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

National : AU, BG, CA, CN, CZ, DE, IL, JP, KP, KR, MN, NO, NZ, PL, RO, RU, SE, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

National : AE, AG, AL, AM, AT, AZ, BA, BB, BR, BY, BZ, CH, CR, CU, DK, DM, DZ, EE, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW,
MX, MZ, PT, SD, SG, SI, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer: Zakaria EL KHODARY Telephone No. (41-22) 338.83.38
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PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

McNEIGHT, David L.
McNeight & Lawrence
Regent House, Heaton Lane
Stockport
Cheshire, SK4 1BS
GRANDE BRETAGNE

NOTIFICATION OF RECEIPT OF DEMAND BY COMPETENT INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year)

15.03.01

Applicant's or agent's file reference
M98/0101/PCT

IMPORTANT NOTIFICATION

International application No.
PCT/GB 00/02882

International filing date (day/month/year)
26/07/2000

Priority date (day/month/year)
27/07/1999

Applicant

LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

21/02/2001

2. This date of receipt is:

- ☒ the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
☐ the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).
☐ the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.

- ☐ (If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/

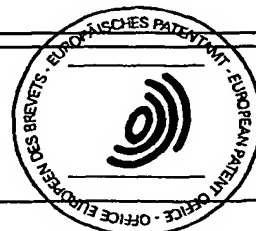


European Patent Office
D-80298 Munich
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Authorized officer

CHAVONAND F H

Tel. (+49-89) 2399-2390



PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

To:

McNeight & Lawrence
Regent House, Heaton Lane
Stockport, Cheshire, SK4 IBS
UNITED KINGDOM

Date of mailing
(day/month/year)

13/12/2000

Applicant's or agent's file reference

M98/0101/PCT

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/GB 00/ 02882

International filing date
(day/month/year)

26/07/2000

Applicant

LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Amélie Möller

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference M98/0101/PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/ 02882	International filing date (day/month/year) 26/07/2000	(Earliest) Priority Date (day/month/year) 27/07/1999
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The present invention concerns mixers for particulate matter, particularly powders, and methods of mixing same.

Carousel mixer comprising a plurality of vertically-arranged levels (10, 20, 30, 40) of mixing compartments (50), each level of mixing compartments comprising M exponent N compartments (50) where M is more than or equal at 2 and N is more than or equal at 2, each compartment (50) having an openable bottom, each level of compartments (10, 30) being rotationally displaceable relative to the adjacent level or levels (20, 40), and there being at least N+1 levels of mixing compartments.

INTERNATIONAL SEARCH REPORT

International Application No

T/GB 00/02882

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01F5/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 556 982 A (MO I ZHIRO) 28 June 1985 (1985-06-28) the whole document and in particular page 13 line 2 - line 12, figure 12	1-6, 8
A	PATENT ABSTRACTS OF JAPAN vol. 004, no. 098 (C-018), 15 July 1980 (1980-07-15) & JP 55 059835 A (ONOE KIKAI:KK), 6 May 1980 (1980-05-06) abstract	1, 2, 5, 6, 8
A	DE 323 174 C (OTTO HILDEBRANDT) 16 July 1920 (1920-07-16) the whole document	1, 6
A	FR 439 573 A (FRANÇOIS ALLARD) the whole document	1, 6
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

30 November 2000

Date of mailing of the international search report

13/12/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Labeeuw, R

INTERNATIONAL SEARCH REPORT

International Application No
T/GB 00/02882

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 005, no. 024 (C-043), 13 February 1981 (1981-02-13) & JP 55 149638 A (OUMI DORIYOUKOU KK), 21 November 1980 (1980-11-21) abstract</p> <p>-----</p>	1,6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/02882

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2556982	A	28-06-1985	SU 1368017 A	23-01-1988
			SU 1407528 A	07-07-1988
			AT 905284 A	15-05-1993
			BG 46786 A	15-03-1990
			CH 668366 A	30-12-1988
			CS 8406822 A	13-08-1987
			DE 3490615 C	08-06-1989
			DE 3490615 T	09-01-1986
			FI 853053 A,B,	08-08-1985
			JP 61500776 T	24-04-1986
			WO 8502788 A	04-07-1985
			BG 46784 A	15-03-1990
			CS 8501331 A	12-11-1987
			DD 269519 A	05-07-1989
JP 55059835	A	06-05-1980	JP 1089788 C	23-03-1982
			JP 56030053 B	13-07-1981
DE 323174	C		NONE	
FR 439573	A		NONE	
JP 55149638	A	21-11-1980	JP 1412136 C	27-11-1987
			JP 62018213 B	22-04-1987

PCT

**NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES**

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

MCNEIGHT & LAWRENCE
Regent House
Heaton Lane
Stockport
Cheshire SK4 1BS
ROYAUME-UNI

Date of mailing (day/month/year) 01 February 2001 (01.02.01)		
Applicant's or agent's file reference M98/0101/PCT		IMPORTANT NOTICE
International application No. PCT/GB00/02882	International filing date (day/month/year) 26 July 2000 (26.07.00)	Priority date (day/month/year) 27 July 1999 (27.07.99)
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AU, KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EA, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU.
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on
01 February 2001 (01.02.01) under No. WO 01/07153

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer</p> <p style="text-align: center;">J. Zahra</p> <p>Telephone No. (41-22) 338.83.38</p>
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Continuation of Form PCT/IB/3

**NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF
THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES**

Date of mailing (day/month/year) 01 February 2001 (01.02.01)	IMPORTANT NOTICE
Applicant's or agent's file reference M98/0101/PCT	International application No. PCT/GB00/02882
<p>The applicant is hereby notified that, at the time of establishment of this Notice, the time limit under Rule 46.1 for making amendments under Article 19 has not yet expired and the International Bureau had received neither such amendments nor a declaration that the applicant does not wish to make amendments.</p>	

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

McNEIGHT, David L.
McNeight & Lawrence
Regent House, Heaton Lane
Stockport
Cheshire, SK4 1BS
GRANDE BRETAGNE

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

Date of mailing
(day/month/year) 26.10.2001

Applicant's or agent's file reference
M98/0101/PCT

IMPORTANT NOTIFICATION

International application No.
PCT/GB00/02882

International filing date (day/month/year)
26/07/2000

Priority date (day/month/year)
27/07/1999

Applicant
LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Fuerbass, C

Tel. +49 89 2399-8132



ATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference M98/0101/PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/02882	International filing date (day/month/year) 26/07/2000	Priority date (day/month/year) 27/07/1999
International Patent Classification (IPC) or national classification and IPC B01F5/24		
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.		


1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 21/02/2001	Date of completion of this report 26.10.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Degen, M Telephone No. +49 89 2399 8612



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/02882

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-7 as originally filed

Claims, No.:

1-8 as originally filed

Drawings, sheets:

1/5-5/5 as received on 01/11/2000 with letter of 06/09/2000

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/02882

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 6-8.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 6-8 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02882

	No:	Claims	1,2,4,5
Inventive step (IS)	Yes:	Claims	
	No:	Claims	3
Industrial applicability (IA)	Yes:	Claims	1-5
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item III, V and VIII

1.1 Document **D1** (page 9, lines 6-27, fig. 10-12), which is considered to represent the most relevant state of the art, discloses a mixing apparatus comprising a plurality of vertically-arranged levels of mixing compartments, each level of mixing compartments comprising M^N compartments where $M, N \geq 2$, each compartment having an operable bottom, each level being rotationally displaceable relative to the adjacent level and being at least $N+1$ levels. Claim 1 does not express that M and N are the same for each level.

The subject-matter of **claims 1, 2, 4, 5** is therefore not novel (Article 33(2) PCT).

1.2 The subject-matter of dependent claim 3 does not seem to introduce anything which could be regarded as inventive (Article 33(3) PCT).

2.1 The relative term "exponential mixing" used in **claim 6** as well as in the description has no well-recognised meaning and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT). By using this vague term, the claim 6 attempts to define the subject-matter in terms of the result to be achieved which merely amounts to a statement of the underlying problem. The technical features necessary for achieving this result should be added (see PCT guidelines, Section IV, III-4.7).

Furthermore, it should be noted that it is not understood how it would be possible to transfer the content of one compartment to M adjacent mixing compartments below for $M=3$ (**claim 6**), if each level contains the same number of compartments (see item 1, above). In other words, how can the content of one compartment be equally divided between three compartments without rotation?

2.2 The description (page 4, last paragraph) is not in conformity with **claim 7** as required by Rule 5.1(a)(iii) PCT concerning the definition of the angle of rotation (+ or - sign). Furthermore, it appears that with $2^3=8$ compartments on 4 levels, if the result to be achieved is to have 1/8th of the contents of each compartment of level 1 in each compartment of the 4th level, the only possible rotations are $+135^\circ/-135^\circ/+135^\circ$ or $-135^\circ/+135^\circ/-135^\circ$ (see as well description page 5). For 2^2 compartments on 3 levels

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/02882

there is no need to alternate the sense of direction.

The given functional statement do not therefore enable the skilled person to determine which technical features are necessary to perform the stated mixing function. **Claims 6, 7** do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.

- 2.3 As **claim 6, 7** and thus also dependent **claim 8** are not clear, no opinion concerning novelty, inventive step and industrial applicability can be given.

PATENT COOPERATION TREATY

PCT



REC'D 31 OCT 2001

WIPO

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference M98/0101/PCT		FOR FURTHER-ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/02882	International filing date (day/month/year) 26/07/2000	Priority date (day/month/year) 27/07/1999	
International Patent Classification (IPC) or national classification and IPC B01F5/24			
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application			
Date of submission of the demand 21/02/2001		Date of completion of this report 26.10.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Degen, M Telephone No. +49 89 2399 8612 	

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02882

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-7 as originally filed

Claims, No.:

1-8 as originally filed

Drawings, sheets:

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02882

- ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)
6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application.
- ☒ claims Nos. 6-8.

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 6-8 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the said claims Nos. .
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the standard.
- ☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02882

	No:	Claims	1,2,4,5
Inventive step (IS)	Yes:	Claims	
	No:	Claims	3
Industrial applicability (IA)	Yes:	Claims	1-5
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Remarks III, V and VIII

1.1 Document **D1** (page 9, lines 6-27, fig. 10-12), which is considered to represent the most relevant state of the art, discloses a mixing apparatus comprising a plurality of vertically-arranged levels of mixing compartments, each level of mixing compartments comprising M^N compartments where $M, N \geq 2$, each compartment having an operable bottom, each level being rotationally displaceable relative to the adjacent level and being at least $N+1$ levels. Claim 1 does not express that M and N are the same for each level.

The subject-matter of **claims 1, 2, 4, 5** is therefore not novel (Article 33(2) PCT).

1.2 The subject-matter of dependent claim 3 does not seem to introduce anything which could be regarded as inventive (Article 33(3) PCT).

2.1 The relative term "exponential mixing" used in **claim 6** as well as in the description has no well-recognised meaning and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT). By using this vague term, the claim 6 attempts to define the subject-matter in terms of the result to be achieved which merely amounts to a statement of the underlying problem. The technical features necessary for achieving this result should be added (see PCT guidelines, Section IV, III-4.7).

Furthermore, it should be noted that it is not understood how it would be possible to transfer the content of one compartment to M adjacent mixing compartments below for $M=3$ (**claim 6**), if each level contains the same number of compartments (see item 1, above). In other words, how can the content of one compartment be equally divided between three compartments without rotation?

2.2 The description (page 4, last paragraph) is not in conformity with **claim 7** as required by Rule 5.1(a)(iii) PCT concerning the definition of the angle of rotation (+ or - sign). Furthermore, it appears that with $2^3=8$ compartments on 4 levels, if the result to be achieved is to have 1/8th of the contents of each compartment of level 1 in each compartment of the 4th level, the only possible rotations are $+135^\circ/-135^\circ/+135^\circ$ or $-135^\circ/+135^\circ/-135^\circ$ (see as well description page 5). For 2^2 compartments on 3 levels

there is no need to alternate the sense of direction.

The given functional statement do not therefore enable the skilled person to determine which technical features are necessary to perform the stated mixing function. **Claims 6, 7** do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.

- 2.3 As **claim 6, 7** and thus also dependent **claim 8** are not clear, no opinion concerning novelty, inventive step and industrial applicability can be given.

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

**NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT**

(PCT Administrative Instructions, Section 411)


To:

MCNEIGHT & LAWRENCE
Regent House
Heaton Lane
Stockport
Cheshire SK4 1BS
ROYAUME-UNI

Date of mailing (day/month/year) 23 November 2000 (23.11.00)	
Applicant's or agent's file reference M98/0101/PCT	IMPORTANT NOTIFICATION
International application No. PCT/GB00/02882	International filing date (day/month/year) 26 July 2000 (26.07.00)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 27 July 1999 (27.07.99)
Applicant LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.**
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.**

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
27 July 1999 (27.07.99)	9917715.6	GB	12 Sept 2000 (12.09.00)

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer</p> <p>C. Villet </p> <p>Telephone No. (41-22) 338.83.38</p>
---	---

PATENT COOPERATION TREATY

10/048,238

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

MCNEIGHT & LAWRENCE
Regent House
Heaton Lane
Stockport
Cheshire SK4 1BS
ROYAUME-UNI

Date of mailing (day/month/year)

18 February 2002 (18.02.02)

Applicant's or agent's file reference

M98/0101/PCT

IMPORTANT NOTIFICATION

International application No.

PCT/GB00/02882

International filing date (day/month/year)

26 July 2000 (26.07.00)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

LOUGHBOROUGH UNIVERSITY
INNOVATIONS LIMITED
Loughborough University
Ashby Road
Loughborough
Leicestershire LE11 3TF
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

CARTER BROTHERS (ROCHDALE) LIMITED
Mellor Street
Rochdale
Lancashire OL12 6XQ
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Jean-Luc MARTIN

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 09 April 2001 (09.04.01)	
International application No. PCT/GB00/02882	Applicant's or agent's file reference M98/0101/PCT
International filing date (day/month/year) 26 July 2000 (26.07.00)	Priority date (day/month/year) 27 July 1999 (27.07.99)
Applicant FREAKLEY, Philip, Kenneth et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

21 February 2001 (21.02.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Zakaria EL KHODARY Telephone No.: (41-22) 338.83.38
---	--

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year)
09 April 2001 (09.04.01)

International application No.
PCT/GB00/02882

Applicant's or agent's file reference
M98/0101/PCT

International filing date (day/month/year)
26 July 2000 (26.07.00)

Priority date (day/month/year)
27 July 1999 (27.07.99)

Applicant

FREAKLEY, Philip, Kenneth et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

21 February 2001 (21.02.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Zakaria EL KHODARY

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

10/048,238

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

MCNEIGHT & LAWRENCE
Regent House
Heaton Lane
Stockport
Cheshire SK4 1BS
ROYAUME-UNIDate of mailing (day/month/year)
18 February 2002 (18.02.02)Applicant's or agent's file reference
M98/0101/PCTInternational application No.
PCT/GB00/02882

IMPORTANT NOTIFICATION

International filing date (day/month/year)
26 July 2000 (26.07.00)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

LOUGHBOROUGH UNIVERSITY
INNOVATIONS LIMITED
Loughborough University
Ashby Road
Loughborough
Leicestershire LE11 3TF
United KingdomState of Nationality
GBState of Residence
GB

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

CARTER BROTHERS (ROCHDALE) LIMITED
Mellor Street
Rochdale
Lancashire OL12 6XQ
United KingdomState of Nationality
GBState of Residence
GB

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Jean-Luc MARTIN

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 February 2001 (01.02.2001)

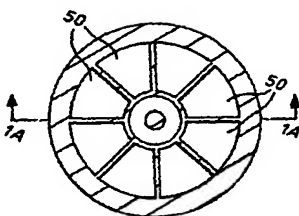
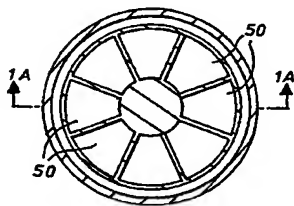
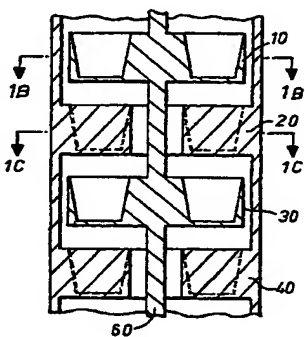
PCT

(10) International Publication Number
WO 01/07153 A1

- (51) International Patent Classification⁷: B01F 5/24
- (21) International Application Number: PCT/GB00/02882
- (22) International Filing Date: 26 July 2000 (26.07.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
9917715.6 27 July 1999 (27.07.1999) GB
- (71) Applicant (for all designated States except US): LOUGHBOROUGH UNIVERSITY INNOVATIONS LIMITED [GB/GB]; Loughborough University, Ashby Road, Loughborough, Leicestershire LE11 3TF (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): FREAKLEY, Philip, Kenneth [GB/GB]; 161 Main Street, Thornton, Leicester, Leicestershire LE67 3AH (GB). CLARKE, Jan [GB/GB]; 122A Marsh Lane, Belper, Derbyshire DE56 1GT (GB).
- (74) Agent: MCNEIGHT & LAWRENCE; Regent House, Heaton Lane, Stockport, Cheshire SK4 1BS (GB).
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(54) Title: CAROUSEL MIXER



(57) Abstract: The present invention concerns mixers for particulate matter, particularly powders, and methods of mixing same. Carousel mixer comprising a plurality of vertically-arranged levels (10, 20, 30, 40) of mixing compartments (50), each level of mixing compartments comprising M exponent N compartments (50) where M is more than or equal at 2 and N is more than or equal at 2, each compartment (50) having an openable bottom, each level of compartments (10, 30) being rotationally displaceable relative to the adjacent level or levels (20, 40), and there being at least N+1 levels of mixing compartments.

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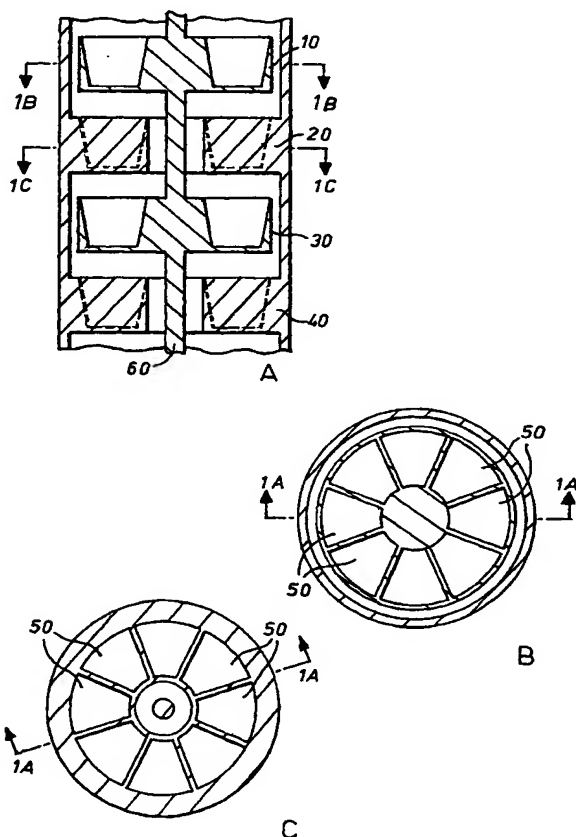
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